

REMARKS

No claims have been amended. No new matter has been included. Claims 1-23 and 35-40 are pending in the application.

Claims 1-18 and 35-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoon et al. (U.S. Patent No. 6,479,887) ("Yoon") in view of Miyawaki (U.S. Patent No. 6,268,236). The rejection is respectfully traversed.

Applicants note that the current § 103(a) rejection is essentially the same rejection articulated in the § 102(e) rejection based on Yoon from the previous Office Action. Applicants also note that the Examiner found Applicants' arguments, filed December 23, 2004, persuasive as stated in the current Office Action in overcoming anticipation by the Yoon reference. Applicants respectfully submit that the combination of Yoon and Miyawaki does not render the claimed invention obvious.

The present invention relates to a method of packaging semiconductor devices. The method includes the steps of forming a layered assembly by attaching a wafer to a dielectric layer, testing semiconductor devices in the wafer, and then dicing the layered assembly.

Yoon relates to a circuit pattern tape for the wafer-scale production of chip-size semiconductor packages. Yoon specifically teaches a circuit pattern tape that eliminates wafer chipping during package singulation by using a resin envelope formation region on the tape that does not intersect the singulation lines of the tape and wafer.

Miyawaki relates to a method of manufacturing a semiconductor device, each semiconductor chip is housed in each of a plurality of cavities formed in the primary

surface of a plate-like base substrate. Miyawaki specifically teaches the step of attaching a dielectric tape to an assembly by applying heat or pressure and evacuating gas from the assembly.

Claim 1 recites, *inter alia*, the steps of "forming a layered assembly by attaching a wafer to said dielectric substrate, such that said conductive traces are in electrical communication with semiconductor devices in said wafer." Claim 1 further recites "testing semiconductor devices in said wafer; and subsequently, dicing said layered assembly." Neither Yoon nor Miyawaki, even when considered in combination, teach or suggest all limitations of the claim 1 invention. Yoon fails to teach or suggest "attaching a wafer to said dielectric substrate, such that said conductive traces are in electrical communication with semiconductor devices in said wafer." Nor does Yoon teach testing of any semiconductor devices in a wafer. Yoon teaches testing the circuit pattern tape, not "testing semiconductor devices in said wafer; and subsequently, dicing said layered assembly."

Miyawaki also fails to teach or suggest "testing semiconductor devices in said wafer; and subsequently, dicing said layered assembly." In fact, Miyawaki fails to even mention steps regarding testing a semiconductor device. Moreover, the Office Action fails to describe in detail how Miyawaki is relevant to the claimed invention. *See* M.P.E.P. § 2142.

Since, Yoon and Miyawaki, even in combination, do not teach or suggest the limitations of claim 1, it is in condition for allowance. Claims 2-10 depend from claim 1 and should be allowable along with claim 1.

Claim 11 recites the steps of "determining whether the wafer contains a defective semiconductor device; and subsequently, dicing said layered assembly." In

particular, Yoon discloses testing the circuit pattern tape using testing areas 27, not testing a semiconductor wafer. Nor does Miyawaki disclose such limitations. Yoon and Miyawaki, therefore, fail to teach or suggest "determining whether the wafer contains a defective semiconductor device; and subsequently, dicing said layered assembly." For at least the reasons set forth above, the cited references, Yoon and Miyawaki, fail to teach or suggest the limitations of the claim 11 invention and claim 11 is in condition for allowance. Claims 12-18 depend from claim 11 and should be allowable along with claim 11.

Claim 35 recites "testing said semiconductor devices through said ball grid arrays." For at least the reasons set forth above, Yoon, even in combination with Miyawaki, fails to teach or suggest all limitations of claim 35. Claims 36-40 depend from claim 35 and should be allowable along with claim 35.

Whether viewed alone or in combination, Yoon and Miyawaki fail to teach or suggest all limitations of claims 1-18 and 35-40. Accordingly, Applicants respectfully submit that the obviousness rejection be withdrawn and all claims allowed.

Application No.: 09/594,510
Amendment dated May 2, 2005
Reply to Office action dated February 1, 2005

Docket No.: M4065.0184/P184

In view of the above amendment, Applicants believes the pending application is in condition for allowance.

Dated: May 2, 2005

Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

Elizabeth Parsons

Registration No.: 52,499

DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorneys for Applicants